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DOCUMENT-IDENTIFIER: JP 2001319325 A

TITLE: **TRANSPARENT** MAGNETIC CARD

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INT-CL (IPC): G11B005/80, B42D015/10 , G06K019/06

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a **transparent** magnetic **card having enhanced designability and utilizable in ATM** or the like.

SOLUTION: The surface side of a manufactured **transparent** magnetic card 1 is coated with an ink layer 14 containing a dye having absorption in the IR region of 800-1,000 nm.

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TITLE: COATING LIQUID FOR FORMING SOLAR RADIATION FILTER FILM

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INT-CL (IPC): C09D201/00, C09D005/32 , C09K003/00 , G02B001/10

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain the subject coating liquid capable of forming a film high in light transmittance in visible light region, low in light transmittance in near- infrared region and efficiently screening ultraviolet rays by including specific minute particles and an ultraviolet-absorbing ingredient.

SOLUTION: This coating liquid is obtained by including (A) minute particles with a mean particle diameter of ≥200 nm comprising a nitride or **hexaboride** and (B) inorganic and/or organic ultraviolet-absorbing ingredient(s). The content of the component A in the liquid is preferably 0.02-8.0 wt.%. The nitride is a nitride of a metal selected from e.g. Ti, Zr, Hf, V, Nb,

Ta. The
hexaboride is a hexaboride of a metal selected from e.g. La, Ce, Pr, Nd, Gd.
The inorganic ultraviolet-absorbing ingredient is e.g. an iron oxide (hydroxide), cerium oxide, zinc oxide. The organic ultraviolet-absorbing
ingredient is preferably a benzophenone-based or benzotriazole-based one.

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] The design nature of this invention as a card since the card is transparent especially about thick cards, such as an ATM card, a credit card, and various membership cards, is high, and it is related with the transparence magnetic card which has machine fitness, such as a card reader and ATM.
[0002]
[Description of the Prior Art] From the former, in fields, such as an ATM card, and a credit card, an ID card, the magnetic-recording medium is used widely, polyvinyl chloride (PVC) resin and a vinyl chloride vinyl acetate copolymer are mainly used as the material, and especially polyvinyl chloride resin is common. Polyvinyl chloride resin is excellent in a physical mechanical characteristic, the embossing fitness of the alphabetic character section, etc., and current is widely used as optimal material which is perfect as a card material.
[0003] The general manufacture approach of a card is the approach of printing by the well-known printing approach, such as offset printing, gravure, and screen-stencil, to a white vinyl chloride (PVC) base material, imprinting a magnetic tape, after carrying out the laminating of the PVC sheet with high transparency to the both sides, and making unify by thermal melting arrival with a hot press machine, piercing with the metal mold of predetermined size, and making it into the shape of a card type. Although the hot printing type magnetic tape loomed from the card face after the imprint and has produced the level difference, it is embedded at the time of the thermal melting arrival in a hot press machine, and becomes flat-tapped with a card face.
[0004] By the machine which write the MAG of the card reader writer at the time of using such a card, an ATM, an embosser, etc., etc., the existence of a card, the write-in starting position of magnetic information, etc. are detected with the permeability of a card. For this reason, when the card which has a transparent card or transparency is used, an error occurs by machines, such as ATM, without a card being undetectable. Therefore, the application was conventionally limited to cards with which the magnetic tape is not prepared, namely, magnetic information is not used for the card which has a transparent card or transparency, such as a membership card and a certificate.
[0005]
[Problem(s) to be Solved by the Invention] Let it be a technical problem to offer the transparence magnetic card which this invention is made paying attention to the above troubles, a magnetic tape is prepared, it is the magnetic card which has the transparence or transparency which raised design nature in the magnetic card which uses magnetic information, and the existence of a card, the write-in starting position of magnetic information, etc. are detected by machines, such as ATM, namely, can use ATM etc.
[0006]
[Means for Solving the Problem] This invention is a transparence magnetic card characterized by carrying out coating of the ink layer containing the color which absorbs a 800nm - 1000nm infrared field

to a front-face [of the produced transparence magnetic card], or rear-face side in the transparence magnetic card with which the resin sheet with high transparency was used.
[0007] Moreover, this invention is a transparence magnetic card characterized by carrying out coating of the second ink layer containing the color which absorbs a 800nm - 1000nm infrared field to a first ink layer [containing the color which absorbs a 600nm - 800nm visible region - an infrared field to a front-face / of the produced transparence magnetic card /, or rear-face side] and front-face, or rear-face side in the transparence magnetic card with which the resin sheet with high transparency was used.
[0008] Moreover, this invention is a transparence magnetic card characterized by carrying out coating of the ink layer containing the color which absorbs a 800nm - 1000nm infrared field beforehand to a front-face [of a resin sheet with high transparency], or rear-face side in the transparence magnetic card with which the resin sheet with high transparency was used.
[0009] Moreover, this invention is a transparence magnetic card beforehand characterized by carrying out coating of the second ink layer containing the color which absorbs a 800nm - 1000nm infrared field to a first ink layer [containing the color which absorbs a 600nm - 800nm visible region - an infrared field] and front-face, or rear-face side at a front-face [of a resin sheet with high transparency], or rear-face side in the transparence magnetic card with which the resin sheet with high transparency was used.
[0010]
[Embodiment of the Invention] The gestalt of the operation of this invention to the following is explained to a detail. Drawing 1 is the sectional view showing one example of the transparence magnetic card by this invention. As shown in drawing 1 , the transparence magnetic card (1) by this invention On a front-face the transparence pin center,large core (10) of a resin sheet with high transparency side A front-face side printing layer (11a), a front-face side exaggerated sheet (12a), a magnetic tape (13), The ink layer (14) containing the color which absorbs a 800nm - 1000nm infrared field, and transparent protection layer (15) are prepared, and a rear-face side printing layer (11b) and rear-face side exaggerated sheet (12b) is prepared on a rear-face a transparence pin center,large core (10) side. Coating of the ink layer (14) containing the color which absorbs a 800nm - 1000nm infrared field, and the transparent protection layer (15) is beforehand carried out on the front face of the produced transparence magnetic card (16).
[0011] It is usable, if it is the thing of 0.65mm thickness made from a polyvinyl chloride (PVC) and is resin with high transparency, such as PET-G (copolymerized polyester resin which permuted 30% of the ethylene glycol component in polyethylene terephthalate by cyclohexane dimethanol), and acrylic nitril-Butadiene Styrene resin (ABS), as an ingredient of a transparence pin center,large core (10) also except a polyvinyl chloride (PVC), for example.
[0012] A front-face side printing layer (11a) and a rear-face side printing layer (11b) are printing layers printed for example, by the silk screen method. Moreover, a front-face side exaggerated sheet (12a) and a rear-face side exaggerated sheet (12b) are the things of 0.05mm thickness made from a polyvinyl chloride (PVC). An ink layer (14) is an ink layer by which coating was carried out using the ink containing the color which absorbs a 800nm - 1000nm infrared field. In drawing 1 , although coating of this ink layer (14) was carried out all over the transparence magnetic card (16), coating of it could be carried out to the part.
[0013] Since the transparence magnetic cards (1) by this invention are the above configurations, as a dotted-line arrow head shows, they penetrate light 800nm or less, and turn into a transparence magnetic card which has transparency in area A. That is, it corresponds to the sensor which is detecting the card in the infrared field, and it becomes usable at ATM etc., securing transparency.
[0014] Drawing 2 is the sectional view showing other examples of the transparence magnetic card by this invention. As shown in drawing 2 , the transparence magnetic card (2) by this invention On a front-face the transparence pin center,large core (20) of a resin sheet with high transparency side The second ink layer containing the color which absorbs a 800nm - 1000nm infrared field (24b), The first ink layer containing the color which absorbs a 600nm - 800nm infrared field (24a), A front-face side printing layer (21a), a front-face side exaggerated sheet (22a), and a magnetic tape (23) are prepared, and a rear-face side printing layer (21b) and rear-face side exaggerated sheet (22b) is prepared on a rear-face a

transparence pin center,large core (20) side.
[0015] The second ink layer (24b) and the first ink layer (24a) are ink layers by which coating was beforehand carried out to the front-face side of the original fabric of a resin sheet with the above-mentioned high transparency. Coating of the first ink layer (24a) is carried out using the ink containing the color which absorbs a 600nm - 800nm infrared field using the ink containing the color in which the second ink layer (24b) absorbs a 800nm - 1000nm infrared field. In drawing 2 , although coating of these second ink layers (24b) and the first ink layer (24a) was carried out all over the original fabric of a resin sheet with the above-mentioned high transparency, coating of them could be carried out to the part.

[0016] Since the transparence magnetic cards (2) by this invention are the above configurations, as a dotted-line arrow head shows, they penetrate light 600nm or less, and turn into a transparence magnetic card which has transparency in area B. That is, it corresponds to the sensor which is detecting the card in a part of light field and the infrared field, and it becomes a transparence magnetic card with machine fitness, securing transparency.
[0017] Drawing 3 is the sectional view showing other another examples of the transparence magnetic card by this invention. As shown in drawing 3 , the transparence magnetic card (3) by this invention On a front-face the transparence pin center,large core (30) of a resin sheet with high transparency side The first ink layer containing the color which absorbs a 600nm - 800nm infrared field (34a), A front-face side printing layer (31a), a front-face side exaggerated sheet (32a), and a magnetic tape (33) are prepared. Moreover, a second ink layer [containing the color which absorbs a 800nm - 1000nm infrared field] (34b), rear-face side printing layer (31b), and rear-face side exaggerated sheet (32b) is prepared on a rear-face a transparence pin center,large core (30) side.
[0018] the first ink layer (34a) -- the front-face side of the original fabric of a resin sheet with the above-mentioned, beforehand high transparency -- moreover, the second ink layer (34b) is an ink layer by which coating was carried out to the rear-face side of the original fabric of a resin sheet with the above-mentioned high transparency. Coating of the second ink layer (34b) is carried out using the ink containing the color which absorbs a 800nm - 1000nm infrared field using the ink containing the color in which the first ink layer (34a) absorbs a 600nm - 800nm infrared field. In drawing 3 , although coating of these first ink layers (34a) and the second ink layer (34b) was carried out all over the front-face side of the original fabric of a resin sheet with the above-mentioned high transparency, and the rear-face side, coating of them could be carried out to the part.
[0019] Since this transparence magnetic card is the above configurations, in a C region, light 600nm or less is penetrated as a dotted-line arrow head shows, and serves as a transparence magnetic card which has transparency. That is, it corresponds to the sensor which is detecting the card in a part of light field and the infrared field, and it becomes a transparence magnetic card with machine fitness, securing transparency.
[0020] Therefore, the transparence magnetic card by this invention becomes possible [using], without, or carrying out reconstruction by the side of the machine which secures transparency and write the MAG of the present card reader writer, an ATM, an embosser, etc., etc., even if it is colored. Moreover, or since it has secured transparency even if it is colored, the magnetic card of it which has the design which raised the design nature which is not in the conventional magnetic card becomes possible. [the transparence magnetic card by this invention] Furthermore, it becomes an overprint magnetic card, an IC card, etc. which made transparence some cards other than a common magnetic card usable.
[0021]
[Effect of the Invention] This invention by carrying out coating of the ink layer containing the color which absorbs a 800nm - 1000nm infrared field to the front-face side of the transparence magnetic card which the resin sheet with high transparency was used and was produced It corresponds to the sensor which it has transparence or transparency, and design nature is raised, and is detecting the card in the infrared field, and by machines, such as ATM, the existence of a card, the write-in starting position of magnetic information, etc. are detected, namely, serve as a transparence magnetic card which can use ATM etc.

[0022] Moreover, the first ink layer in which a resin sheet with this invention high [transparency] contains the color which absorbs a 600nm - 800nm visible region - an infrared field to the front-face side of the transparence magnetic card used and produced, And by carrying out coating of the second ink layer containing the color which absorbs a 800nm - 1000nm infrared field to a front-face or rear-face side It becomes a transparence magnetic card with the machine fitness corresponding to the sensor which it has transparence or transparency, and design nature is raised, and is detecting the card in a part of light field and the infrared field.

[0023] This invention moreover, by using for the front-face side of the original fabric of a resin sheet with high transparency beforehand the resin sheet with high transparency with which coating of the ink layer containing the color which absorbs a 800nm - 1000nm infrared field was carried out It corresponds to the sensor which it has transparence or transparency, and design nature is raised, and is detecting the card in the infrared field, and by machines, such as ATM, the existence of a card, the write-in starting position of magnetic information, etc. are detected, namely, serve as a transparence magnetic card which can use ATM etc.

[0024] Moreover, the first ink layer containing the color to which this invention absorbs a 600nm - 800nm visible region - an infrared field beforehand to the front-face side of the original fabric of a resin sheet with high transparency, From and that of the resin sheet with high transparency with which coating of the second ink layer containing the color which absorbs a 800nm - 1000nm infrared field was carried out to the front-face or rear-face side being used It becomes a transparence magnetic card with the machine fitness corresponding to the sensor which it has transparence or transparency, and design nature is raised, and is detecting the card in a part of light field and the infrared field.

[Translation done.]